

# A pedagogical end game for exams: a look 10 years into the future of high stakes assessment

**Dr Mathew Hillier**



**Dr Andrew Fluck**



**TransformingExams.com**



# Transforming Exams Across Australia

Australian Government Office for Learning and Teaching  
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Dr <b>Mathew Hillier</b> ; Leader OLT national project. Seed leader	Monash University 5 Oct 2015 (was University of Queensland)
Dr <b>Andrew Fluck</b> ; Originator of USB e-exam concept. Seed partner.	University of Tasmania
Dr <b>Michael Cowling</b> , Mr Kenneth Howah Seed trial site.	Central Queensland University
Dr <b>Kim Blackmore</b>	Australian National University
Assoc. Prof. <b>Paul Newhouse</b>	Edith Cowan University
Dr <b>Matthew Bower</b> , Prof. Dominic Verity	Macquarie University
Prof. <b>Marilyn Baird</b> (H), Mr <b>Scott Grant</b> (A)	Monash University
Assoc. Prof. <b>Shona Leitch</b>	RMIT University
Dr <b>Ruth Geer</b> , Mr Bruce White	University of South Australia



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MONASH  
University

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**100K** additional cash from Monash University.

Demo & Guides



# Is this your exam space?



# The dissonance of it all!

Real world of work



World Economic Forum – How will digital change your working world. <https://agenda.weforum.org/wp-content/uploads/rtr2m8vm1-628x330.jpg>

Exams



Exams at Monash Caulfield in 2015 (mathew.hilier[at]monash.edu)

We are faced with a growing disconnect between the way *high stakes testing* is conducted using pen on paper exams and students' everyday experiences of study, work and life.

# A Possible Future

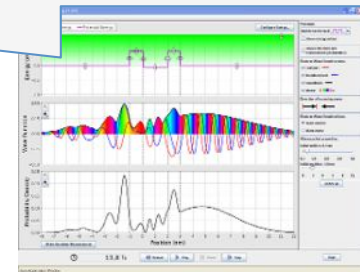
An evolution rather than a revolution. Some aspects may occur quicker than others depending on particular implementation and technical models chosen.

	About now	2015-2020	2020-2025	2025 and beyond
<b>Medium for high stakes assessments</b>	Paper	Paper-replacement – students can opt to type instead of handwriting (uses USB drive to boot BYOD). Some post-paper exams appearing.	Post-paper exams common. All questions and materials are digital, a computer is required to respond to assessment challenges.	Fully computerised, internet enabled exams with candidates using a range of software and input devices.
<b>Connectivity</b>	None	None to some use of restricted ad-hoc networks for response reticulation in post-paper exams.	Mix of offline and online exams limited to selected resources. Connections logged.	Open internet access but all transactions are fully logged inclusive of communication, timing, sources.
<b>Authenticity of assessment</b>	Scenarios are written descriptions, with monochrome illustrations	Full colour diagrams and video begin to provide more authentic scenarios	High fidelity, data-driven simulations	Real-time links to global databases
<b>Candidate identity assurance</b>	Manual comparison of face with ID card photo by a trusted supervisor	Practice continues, linked to local database via handheld device.	Practice continues, but laptop camera takes pictures of the keyboard user at random intervals.	Practices continue, with two-factor authentication incorporating biometrics such as face recognition.
<b>Materials provided/ allowed</b>	A range of published books, electronic calculators and stationery equipment bought into the room by students	Digital equivalents begin to replace some materials. E.g PDFs.	e-books, high resolution images, video, simulations, all software tools are provided (open source).	Practice continues with increasing diversity of subject-specific software tools.
<b>Assessment workflow</b>	Bundles of scripts are physically transported to assessors	Practice continues, but digital response scripts can be duplicated, archived and e-mailed.	Digital responses, extends to data files created using subject specific software. E-workflows, banked and tagged questions.	Digital response files are accompanied by performance metrics for individual students, and interaction logs
<b>Achievement measurement</b>	On quality of solution, and written process	Practice continues, analytics of selected response items.	Practice continues, but analytics increasingly detailed. E.g. time taken per question, marks gain.	Detailed analytics, keystrokes/screen touches available – the solution process dominates assessment.
<b>Continuous assessment improvement process</b>	Year-on-year bell-curve comparisons regulate overall difficulty of exam.	Some data on overall ease or difficulty of individual questions/ options is available.	Individual questions are rated for discrimination and reliability etc.	Question ratings take into account all candidate interactions within the assessment.

# Where we are going: Post-paper exams

We need greater pedagogical flexibility and more authentic assessments in the exam room. ... alignment!

Simulations, tools of the trade, virtual experiments...



'Windows' software via WINE. E.g. CAD / 3D modeling, Celestia.

Moodle quiz with media (auto marked).

Question 13  
Not yet answered  
Marked out of 1.00  
Flag question

Listen to the audio and choose the appropriate response - what did you hear?

Select one:

- a. The sound of an elephant.
- b. The audio didnt work for me.
- c. The sound of a bird.

Question 14  
Not yet answered  
Marked out of 1.00  
Flag question

Can you play the video and hear the sound?

Select one:

- a. I get nothing
- b. I can play the video and hear the sound.
- c. I can play it, but can not hear any sound.

Wine Windows Program L

EXAMINAT

Question 1  
Find a minimum energy transfer orbit from Earth to Mars in January 2018. Provide a fuel requirement estimate for the vehicle.

LibreOffice Writer

GEN

Time a

Instructions:

Question 3  
Design a portable conical showerhead which uses water efficiently

Celestia

Earth  
Distance: 31,801 km  
Radius: 6,378.1 km  
Apparent diameter: 19' 51.1"  
Phase angle: 1.1°

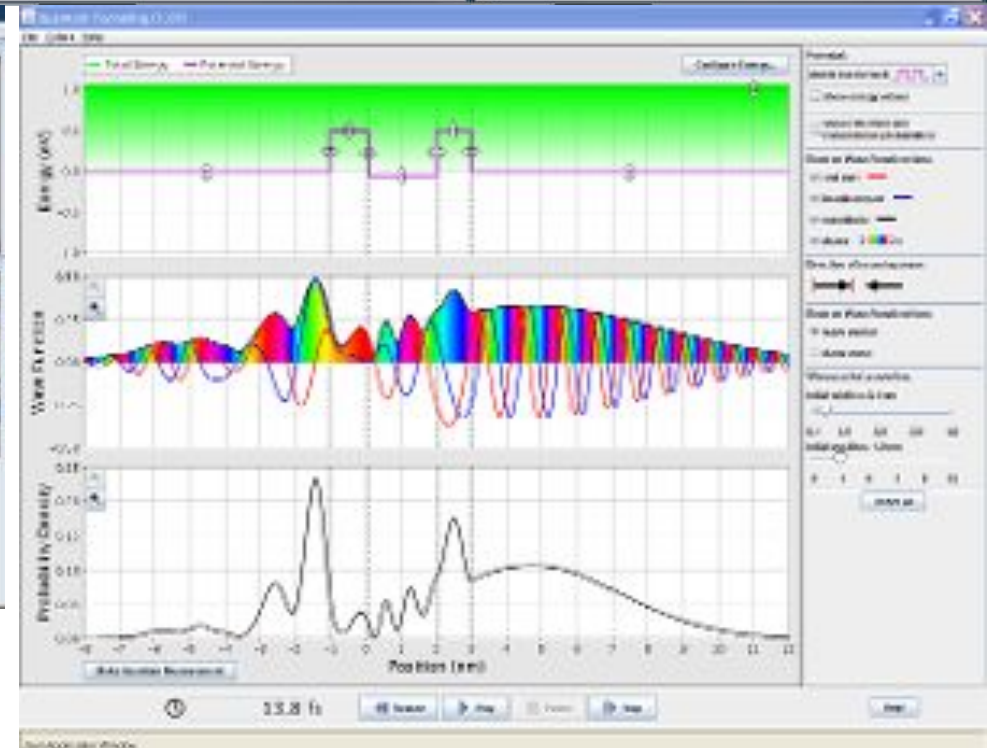
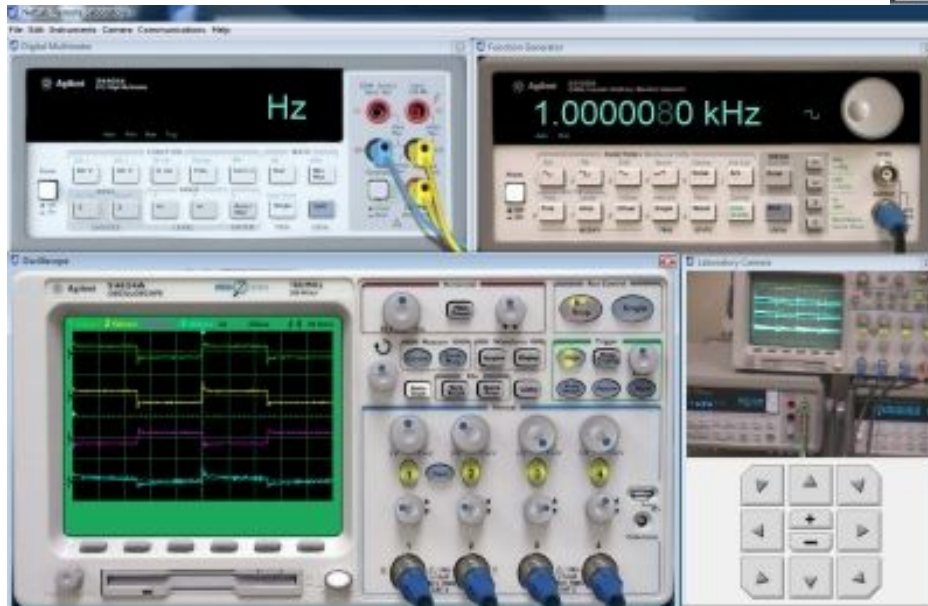
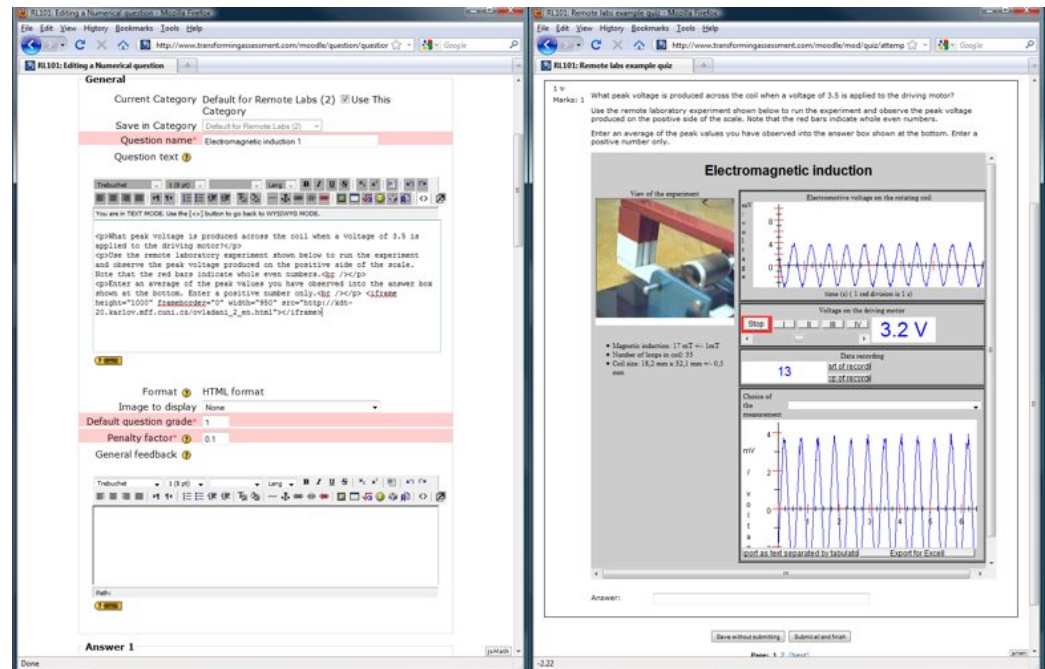
Select Object

Object Name: Mars

OK Cancel

# Simulated Labs

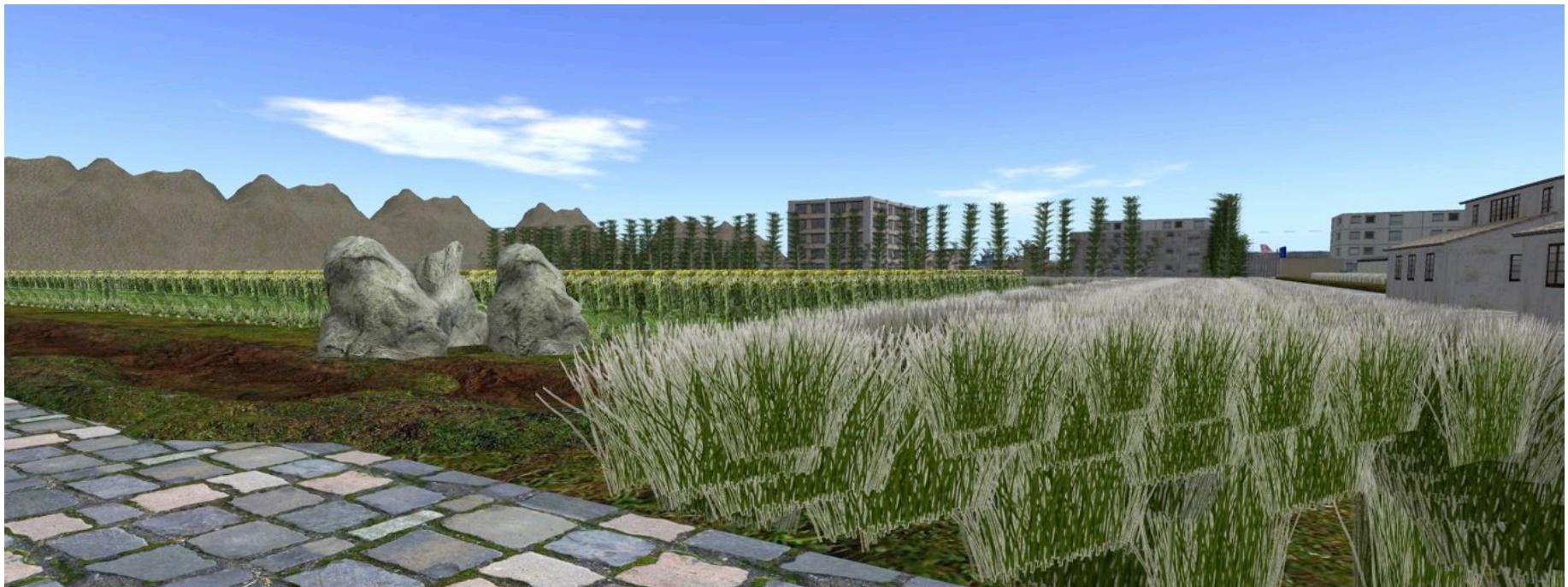
Physical hardware can be connected to the internet or we can use **software simulations** of labs and experiments.



# Virtual Immersive Language Lessons (1)

Scott Grant (Monash University, Australia)

<http://www.virtuallyenhancedlanguages.com>



TA webinar [http://transformingassessment.com/events\\_1\\_april\\_2015.php](http://transformingassessment.com/events_1_april_2015.php)

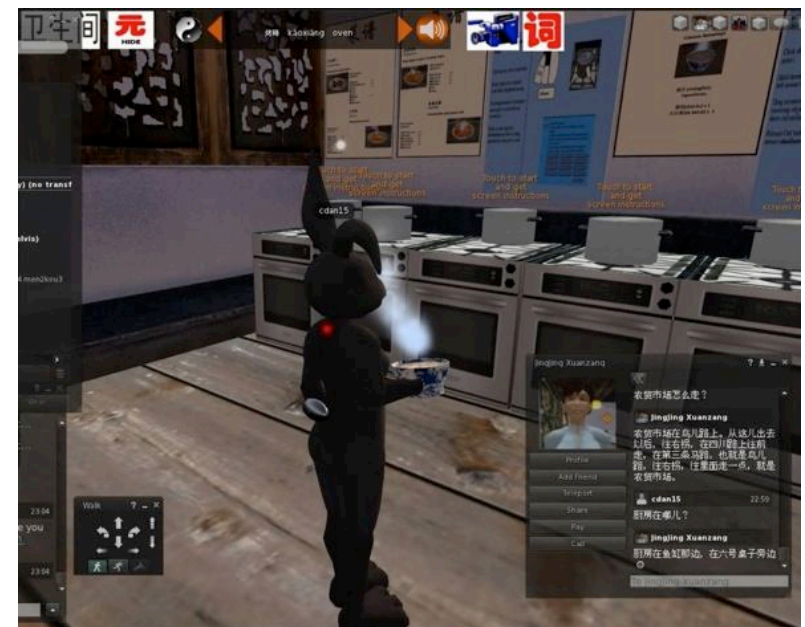
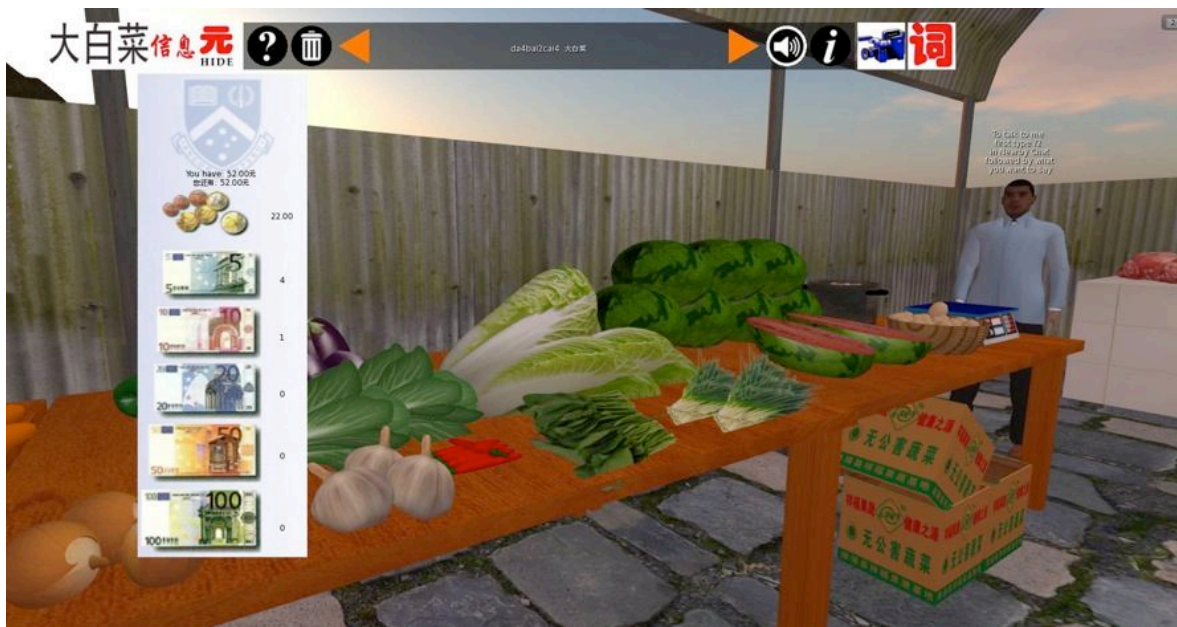


# Virtual Immersive Language Lessons (2)

Task Based Learning or Task Based Language Learning (TBLL).  
Includes communication activities, using language to carry out tasks, language use that is meaningful to the learner and has a purpose, and communication activities that reflect real-life activities with authentic materials.

## Learn by doing:

Purchase supplies then cook noodles – all in Chinese.



# Where we are now: Paper Equivalent (UQ)

Suitable format adjustments were made to cater for both paper and screen.

Question 2. Match the following host-MOTA below).

Possible descriptions:

- a) Mauris id mi id orci interdum semper.
- b) Sed eu neque ut est dignissim fringilla
- c) Vivamus in dolor euismod, luctus libe
- d) Mauris vehicula eros a viverra pellent
- e) Curabitur eu mi at nibh commodo var
- f) Aenean eget orci porta, malesuada lor

Please write or type the letter of the descriptions listed

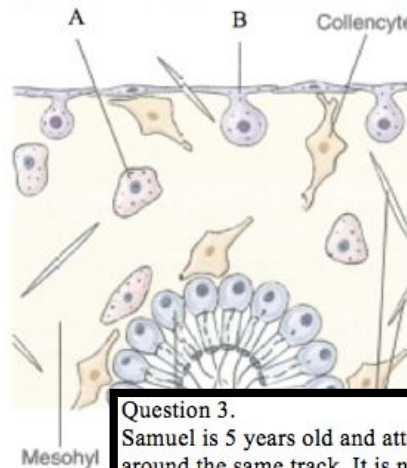
Answer a to f.	Terms
<u>f</u>	I. <u>Paxogen</u>
<u>a</u>	II. <u>Sitabosis</u>
<u>c</u>	III. <u>Fakeasalism</u>
<u>e</u>	

Question 7: Some rationales for punishment are **XEZT**. does this mean?

Please write / type your response inside the box below.

The student types their answer here. In this example a two row table. The response table row is created cell has a minimum height set (by dragging the box) and a minimum height cell instead of successive carriage returns to set the box height, the next question will be less likely to be disrupted when students type their responses. The initial size of the box should indicate the desired length of the response. The box will automatically expand when it gets full.

Question 5: For the following diagram please provide the names for **THE XING** in the table below.



A	Label goes here. Constructed response question.
B	Blue text makes it easier to see which questions have been answered and which have not!
C	Use minimum row heights to provide plenty of space, but don't use double carriage returns!
D	Doing so means the layout is less likely to be disrupted.

Question 3.

Samuel is 5 years old and attends racing cars 5 days per week. Eamon is 10 years old and rides a superbike around the same track. It is not a selected response item so some text will be expected.

In the table below, give two (2) examples of flippant faxadism relevant to his age range (4-6 years), and describe how Samuel and Eamon differ in their abilities to perform faxadism.

[4 marks]

Two different examples of flippant <u>faxadism</u> (one per row) <u>Type here</u>	Describe Samuel's abilities (age 5)	Describe <u>Eamon's</u> abilities (age 10)
	<u>Minimum heights set for both rows</u>	
		<u>More details about setting heights appear later in these examples.</u>

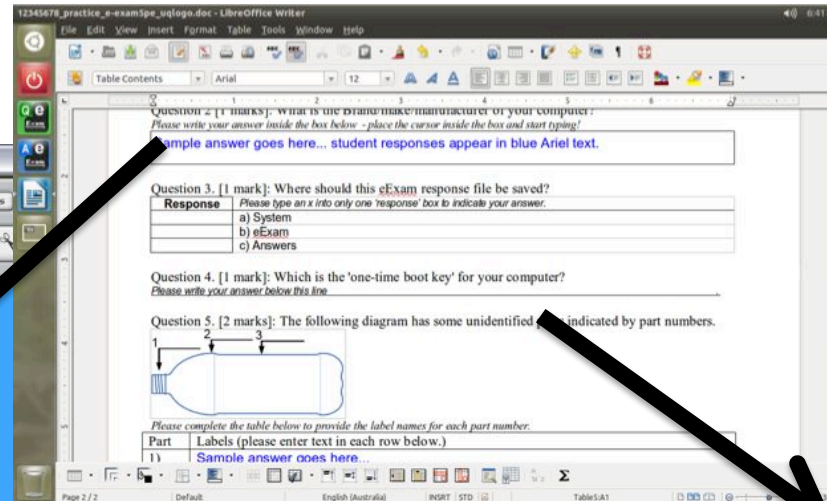
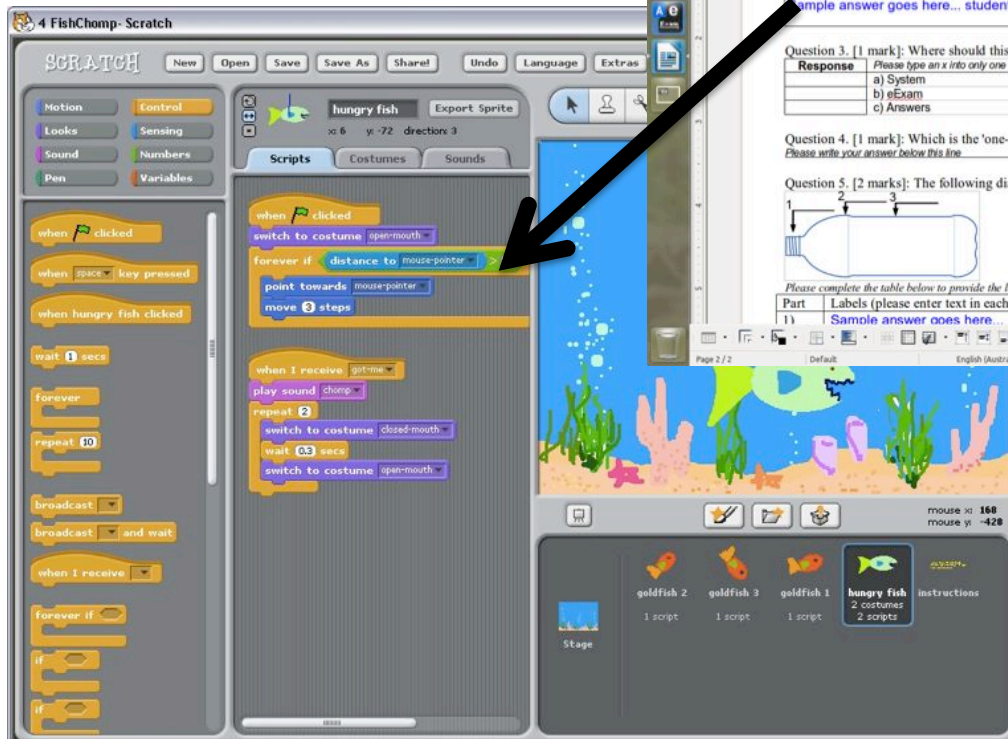
# Where we are now: Paper Plus (UTAS)

**Word doc, plus apps.** Question document with links to launch local apps and resources: graphics, Scratch programming tools, presentation slides, PDFs. All on-board the USB stick.

‘IT in Education’ exams : Andrew Fluck, UTAS.

Exam doc

Scratch SDK

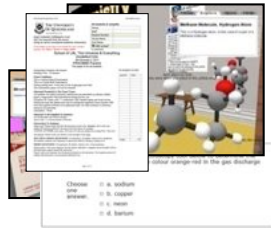


PDF



# e-Exam Trials Workflow

Set-up: prepare exam learning materials



Academic creates exam learning material

Create master USB (tested)



USBs duplicated per student

Pre-session:

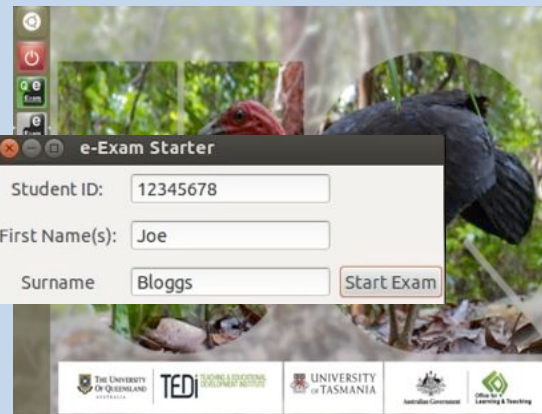
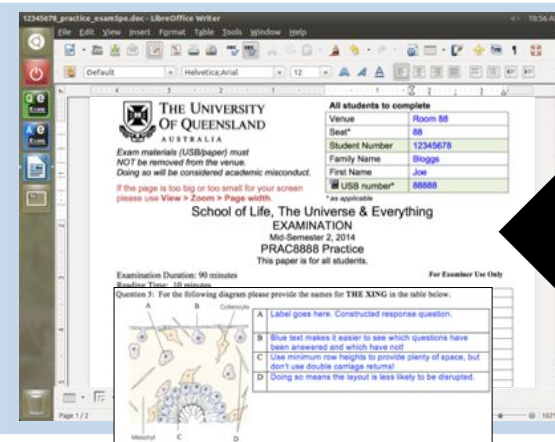
Student laptop setup & practice.



Exam room use



*e-Exam system takes over laptop.  
Ubuntu Live USB.  
Libre Office.*



Post session: retrieve responses and assessment



Collect USBs (responses)



Responses retrieved from USBs.



Collated e-responses sent to academic.



1. Students enter room.
2. Given USB.
3. Boot laptop.
4. Do exam.
5. Return USB.
6. Leave room.

# Ready?

I hope you are excited about the future - and ready to **transform!**



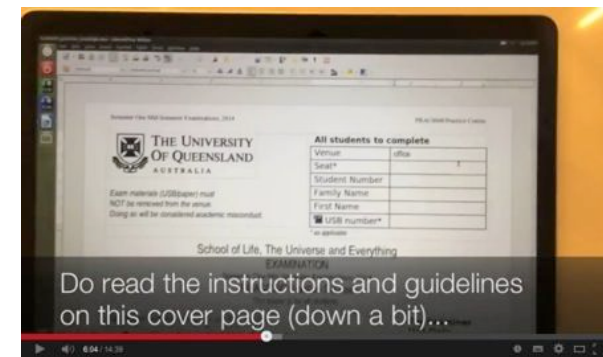
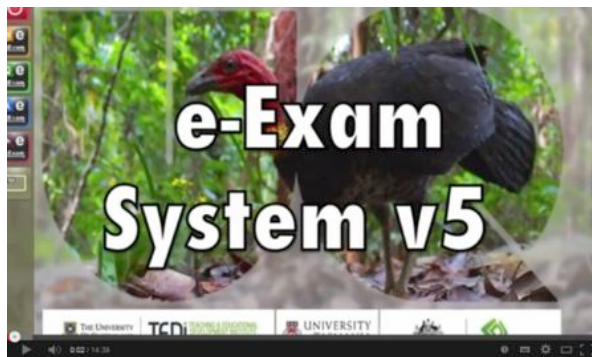
# e-Exam Project Resources

More information....

Demo set-up Guide,

Student Practice and User Guide

<http://transformingexams.com>



Demo videos start-up, use and recovery examples.

Apple <http://ta.vu/eexam-demo-a>

'Wintel' (Dell) <http://ta.vu/eexam-demo-d>

Contact: mathew.hillier[at]monash.edu

# End

## **Cite this resource**

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Presentation at ASCILITE Conference, Perth, Australia, 30 Nov - 2 Dec.

More tomorrow!

Wed 12.05PM Bld 216. room 206

e-Exam trial results – “To type or handwrite: student's experience across six e-Exam trials”

Contact: [mathew.hillier\[at\]monash.edu](mailto:mathew.hillier@monash.edu)

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- Transforming Exams (2015). 'e-Exam System' project, <http://transformingexams.com>

**220 more at:** <https://www.zotero.org/groups/e-assessment/items/tag/e-exam>